

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A primer composition ~~for forming~~that forms all or part of a primer layer between an organic glass base material and a silicone based hardening coating film ~~characterized in that whole or main body of comprising:~~ a primer layer formation polymer; wherein the primer layer formation polymer is of a polyester based thermoplastic elastomer (hereinafter, referred to as "ester based TPE");, also known as ester based TPE.

2. (Currently amended) A primer composition ~~for forming~~that forms all or part of a primer layer between an organic glass base material and a silicone based hardening coating film ~~characterized in that whole or main body of comprising:~~ a primer layer formation polymer; wherein the primer layer formation polymer is of an ester based TPE, and contains the primer layer further comprises a metal oxide particle as; wherein the metal oxide particle is an optical interference control agent.

3. (Currently amended) The primer composition as claimed in Claim 2, characterized in that ~~molar ratio~~weight ratio of hard segment and soft segment of said ester based TPE is the former / the latter = 30 / 70 – 90 / 10, and said ester based TPE indicates surface hardness (Shore hardness D): 35–75, bend elasticity: 40–800 MPa.

4. (Currently amended) The primer composition as claimed in Claim 1, characterized in that ~~molar ratio~~weight ratio of hard segment and soft segment of said ester based TPE is the former / the latter = 30 / 70 – 90 / 10, and said ester based TPE indicates surface hardness (Shore hardness D): 35–75, bend elasticity: 40–800 MPa.

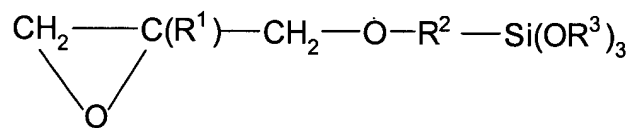
5. (Currently amended) An optical element ~~constructed by forming~~comprising a hard coat layer; the hard coat layer comprising the ~~consisted of~~ a silicone based hardening coating film on a surface of [[an]]the organic glass base material, characterized in that a ~~wherein a primer layer~~

formed with ~~[[a]]~~the primer composition claimed in Claim 1, 2, 3 or 4 is ~~intervened~~placed between said organic glass base material and said silicone based hardening coating film.

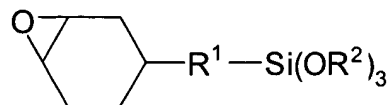
6. (Original) A hard coat composition for forming said silicone based hardening coating film characterized in that said hard coat composition is consisted of hydrolysate of alkoxysilane whose main body is trialkoxysilane containing a monoepoxy organic group as a matrix formation ingredient, and titanium based metal oxide complex particle as an optical interference control agent, and said titanium based metal oxide complex particle is consisted of TiO_2 as a main body, and SiO_2 as a major sub-ingredient, and further, ZrO_2 and K_2O as a trace sub-ingredient.

7. (Original) The hard coat composition as claimed in Claim 6, characterized in that for said titanium based metal oxide complex particle, average diameter thereof is made as one being in a range of 1–50 nm, composition thereof is made as one satisfying each weight ratio of $\text{SiO}_2 / \text{TiO}_2 = 0.1900\text{--}0.2100$, $\text{ZrO}_2 / \text{TiO}_2 = 0.0015\text{--}0.023$, $\text{K}_2\text{O} / \text{TiO}_2 = 0.0012\text{--}0.012$, content thereof is in a range of 40–100 weight portions to 100 weight portions of whole alkoxysilane content.

8. (Original) The hard coat composition as claimed in Claim 7, characterized in that said trialkoxysilane containing said monoepoxy organic group is consisted of one or more than species selected from the group represented by general formula (1):

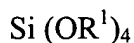


(where R^1 represents H or CH_3 , R^2 represents alkylene group having 1–4 of carbon atoms and R^3 represents alkyl group having 1–4 of carbon atoms), or represented by general formula (2):



(where R^1 represents alkylene group having 1–4 of carbon atoms and R^2 represents alkyl group having 1–4 of carbon atoms).

9. (Original) The hard coat composition as claimed in Claim 8, characterized in that alkoxysilane except for said trialkoxysilane containing said monoepoxy organic group is tetraalkoxysilane represented by general formula (3):



(where R^1 represents alkyl group having 1–4 of carbon atoms), content of the relevant tetraalkoxysilane is 20wt% or less in total contents of said alkoxysilane.

10. (Original) The hard coat composition as claimed in Claim 9, characterized in that said hard coat composition contains an organic metal compound as a hardening agent of a matrix formation ingredient, the relevant organic metal compound is consisted of one or more species selected from the group of chelate compounds of Cr (III), Co (III), Fe (III), Zn (II), In (III), Zr (IV), Y (III), Sn, V, Al (III), Ti (II) with which chelating agent selected from ethylenediamine-tetraacetic acid, hexafluoroacetylacetone, trifluoroacetylacetone, acetylacetone and methyl acetoacetate coordinates.

11. (previously presented) An optical element, characterized in that said optical element has a hard coat layer formed by a hard coat composition claimed in Claim 6, 7, 8 or 9 on an organic glass base material.

12. (Currently amended) ~~An~~ A method of forming an optical element constructed by comprising the steps of:

forming a hard coat layer on a surface of an organic glass base material via a primer layer, ~~characterized in that for~~

wherein said primer layer comprises a primer composition forming a primer layer, whole or main body of layer formation polymer wherein all or part of the primer layer formation polymer is made as being an ester based TPE,

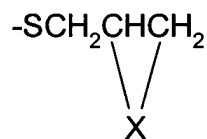
~~a hard coat composition forming~~ wherein said hard coat layer is consisted of comprises a hard coat composition, said hard coat composition comprising hydrolysate of alkoxysilane whose

main body is trialkoxysilane containing monoepoxy organic group as a matrix formation ingredient, and titanium based metal oxide complex particle as an optical interference control agent, and

wherein said titanium based metal oxide complex particle ~~is consisted of~~ comprises TiO_2 as a main body, SiO_2 as a major sub-ingredient and further ZrO_2 and K_2O as a trace sub-ingredient.

13. (Currently amended) The method of forming an optical element as claimed in Claim 12, ~~characterized in that~~ wherein said primer composition further ~~contains~~ comprises a metal oxide particle as an optical interference control agent.

14. (Currently amended) The method of forming an optical element as claimed in Claim 12 or 13, ~~characterized in that~~ wherein said organic glass base material is obtained by ~~polymerizing~~ polymerizing and reacting (1) one or more pieces of active hydrogen compounds selected from the group of polyol, polythiol and hydroxy compound having a mercapto group, and (2) one or more pieces selected from the group of polyisothiocyanate compounds or isothiocyanate compounds having a isocyanate group, or obtained by polymerizing and reacting episulfide having cyclic skeleton having two pieces or more of structure represented by general formula (4):



(where X represents S or O, the number of pieces of S is 50% or more on average with respect to total of S and O constituting three membered ring).

15. (Currently amended) The method of forming an optical element as claimed in Claim 12, ~~characterized in that~~ further comprising the step of laminating a reflection prevention film layer ~~is further laminated on~~ said hard coat layer.

16. (Currently amended) The method of forming an optical element as claimed in Claim 15, ~~characterized in that~~ wherein said reflection prevention film whose design center wavelength λ is made in a range of 450–550 nm, has a multiple structure in which said hard coat layer side, a

medium refractive index layer having an optical film thickness of $0.19-0.29\lambda$, a high refractive index layer having an optical film thickness of $0.42-0.58\lambda$, and a low refractive index layer having an optical film thickness of $0.19-0.29\lambda$ are in turn formed.

17. (Currently amended) The method of forming an optical element as claimed in Claim 16, ~~characterized in that~~wherein said medium refractive index layer and said high refractive index layer ~~are consisted~~comprised of an equivalent film ~~consisted of~~comprising two or more layers using different refractive index substances, respectively.

18. (Currently amended) A method of forming an optical element as claimed in claim 15, 16 or 17, further comprising the step of film-forming method of a reflection prevention film, ~~characterized in that an~~wherein ion cleaning processing is performed on said hard coat layer surface prior to the film-forming of a reflection prevention film ~~claimed in Claim 15, 16 or 17.~~

19. (Currently amended) The ~~film-forming method of a reflection prevention film~~method of forming an optical element as claimed in Claim 18, ~~characterized in that a~~wherein film-forming of at least high refractive index layer out of said reflection prevention films is performed by vapor deposition using an ion beam assist method.

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (Currently amended) ~~An~~A method of forming optical element in whichcomprising the steps of:

~~forming~~ a hard coat layer ~~is formed~~ on an organic glass base material surface via a primer layer and

~~further~~sublimely dyeing an organic glass base material ~~is sublimely dyed~~, characterized in that for;

~~wherein said primer layer comprises a primer composition forming a primer layer, whole or main body of~~ layer formation polymer wherein all or part of the primer layer formation polymer is made as being an ester based TPE,

~~a hard coat composition forming~~wherein said hard coat layer ~~is consisted of~~comprises a hard coat composition, said hard coat composition comprising hydrolysate of alkoxysilane whose main body is trialkoxysilane containing monoepoxy organic group as a matrix formation ingredient, and titanium based metal oxide complex particle as an optical interference control agent,

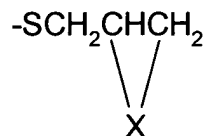
wherein said titanium based metal oxide metal complex particle ~~is consisted of~~comprises TiO_2 as a main body, SiO_2 as a major sub-ingredient and further ZrO_2 and K_2O as a trace sub-ingredient, and ~~further~~;

wherein for a composition for dyeing used for said sublimation type dyeing step, a sizing agent is made as being an acrylic resin, a dye is made as being a water insoluble dye, and a dye resolving agent is made as being an organic solvent having 8–11 of a SP value (resolving property parameter).

25. (Currently amended) The method of forming an optical element as claimed in Claim 24, ~~characterized in that~~wherein said primer composition further contains a metal oxide particle as an optical interference control agent.

26. (Currently amended) The method of forming an optical element as claimed in Claim 24 or 25, ~~characterized in that~~wherein said organic glass base material is obtained by ~~polymerizing~~polymerizing and reacting (1) one or more pieces of active hydrogen compounds selected from the group of polyol, polythiol, and hydroxy compound having a mercapto group, and (2) one or more pieces selected from the group of polyisothiocyanate compounds or isothiocyanate compounds having a isocyanate group, or obtained by polymerizing and reacting episulfide

compounds having cyclic skeleton having two pieces or more of structure represented by general formula (4):



(where X represents S or O, the number of pieces of S is 50% or more on average with respect to total of S and O constituting three membered ring).

27. (New) A method of using the primer composition of any of claims 1, 2, 3 or 4, whereby the primer layer placed between said organic glass base material and said silicone based hardening coating film to form an optical element.